

Modern Technology



READING 1

Randy Dottinga. Stalker Tech: “Students at the University of California at San Diego Are Tracking Their Friends’ Locations with PDAs,” 11 June 2002, in *www.salon.com/*.

-- Discussion of Reading 1 -----

1. What is the function of a personal digital assistant (PDA)? (The PDA allows users to track each other’s location.)
2. Why would the students at the University of California at San Diego (UCSD) use PDAs? (They are provided to students for free and allow their buddies to watch them wander across campus on a zoomable map.)
3. Explain the meaning of UCSD student Ben Shapiro’s statement: “It’s creepy Big Brother.” (The PDA would be an invasion of an individual’s privacy. “Big Brother” was the “Thought Police,” who could watch everyone, in George Orwell’s novel *1984*.)
4. What is the official goal of the PDA project at the university? (The goal is to test whether location trackers will encourage students to find each other more easily on a sprawling and rapidly growing campus.)
5. Explain how the PDAs detect each other and how the technology works. (The PDAs detect each other through the university’s

Wi-Fi [Wireless Fidelity] network, the same radio wave-based system that allows lap-toppers to go online from coffeehouses and airports. The location-tracking software draws upon triangulation technology used by global positioning system [GPS] devices. The PDAs compare the strength levels of signals traveling from the devices to various Wi-Fi antennas.)

6. Can students with PDAs track the location of any other user at any time? (The software only allows a person to track the location of another user if both agree.)
7. Why are critics skeptical about the PDAs? (They think that PDAs have created a security risk for every student who uses the software because they will attract hackers and viruses.)
8. How can UCSD students check where their friends are? (Students can log in to a website from anywhere and check where their friends are.)
9. What two types of information does a PDA provide to a user? (The system offers a zoomable map of the campus—with moving dots representing their friends—and a text list of where people are.)
10. Why does Hewlett-Packard want to know what college students will do with PDAs? (HP wants to know what college students do with the devices because that will tell them what older consumers will do with PDAs in the future.)
11. Why is there a need for a privacy policy and safeguards for users of PDAs? (Beth Givens of the Privacy Rights Clearinghouse says that whenever someone develops a new service that uses personally identifiable information, there will be other uses found for that information in the future.)
12. Explain the meaning of the following abbreviations: PDA, GPS, Wi-Fi, and ACLU. (Personal Digital Assistant, Global Positioning System, Wireless Fidelity, and American Civil Liberties Union.)
13. Write a one-sentence statement in your own words of the main idea of the article. (UCSD has offered free PDAs to students in a test project for Hewlett-Packard, but protections have to be designed for users' privacy.)
14. Would you agree to take part in a PDA project if you were asked to participate? Explain your answer.

Alfred Hermida. "China Plans Health Limits on Mobiles," 10 June 2002, in BBC News World Edition (www.bbc.co.uk/).

-- *Discussion of Reading 2* -----

1. What is the reason for the draft legislation on mobile phone use in China? (The Chinese government plans to cut down on radiation from mobile phones.)
2. What would result from the implementation of this legislation? (The draft regulations would result in China having the world's toughest standards on mobile phone radiation. They would cap radiation emissions from handsets at half the levels allowed internationally. The result could make most handsets illegal in their current form, and there would also be far more phone masts.)
3. Describe the market for mobile phones in China. (China is the world's largest mobile phone market, with 161 million users, and 5 million to 6 million new subscribers signing up every month. The mobile phone is used by the young, the old, the rich, and the poor.)
4. Why do some experts doubt that this draft law will be enacted? (The draft measures on radiation could seriously undermine Chinese efforts to rival European and American mobile phone manufacturers and operators. Also, draft laws are often floated as test balloons to see the reaction of the industry and are never implemented.)
5. Explain the meaning of the statement: "Pragmatism reigns in China." (The Chinese are practical and would not implement a law that would have negative effects on their economy.)
6. Write a one-sentence statement in your own words of the main idea of the article. (The Chinese government drafted a law that limits use of mobile phones to lessen exposure to radiation, but this law may not be implemented because of its negative effects on the Chinese mobile phone industry.)

Vocabulary

Fill in the blank with the correct words. Use each word only once.

implementation
encryption

elites
mobile

safeguard
digital

As information technology (IT) has spread throughout the world, it has cut across cultures and social classes, bringing these modern types of communication not just to the elites but to all levels of society. To some extent, the communication revolution is a democratic one that transmits knowledge to those living in the farthest reaches of the globe. Nevertheless, critics of globalization claim that the beneficiaries of IT are those living in the developed nations and that the inhabitants of developing countries are being deprived of the advances in IT. While statistics from China, the largest market for mobile phones, disprove this point of view, it is true that many people in the Middle East, Africa, and Latin America do not have access to the latest information technologies. Looking ahead, however, IT analysts predict that personal computing devices will eventually be readily available almost everywhere.

Just as with the first and second generation of computers and other high-tech products, major innovations in the third generation (3G) will continue to take place. The early forms of computers were large mainframes, which then were transformed into personal computers (PCs) known as desktops. These PCs led to the development of lightweight laptops. Today handheld computers that are combined with mobile phones are the newest form of IT. As the author of “Computing’s New Shape” says: “In short, the once-separate worlds of computing and mobile telephony are now colliding.”¹ These new devices integrate smartphone software with desktop and server software.² Nokia and Microsoft are competing for this market, but sales of Microsoft’s Pocket PC phone and personal digital assistant (PDA) are slow, compared to sales of Nokia’s smartphones.³

In the next generation of IT products, the implementation of a quantum computer may be the greatest advance. The quantum computer, which manipulates quantum bits (qubits), is able to do “massively parallel calculations which are beyond even the theoretical capabilities of conventional computers.”⁴ The prototype for this amazing machine was built in Austria

1. “Computing’s New Shape,” *The Economist*, 23 November 2002, 11.
2. “Nokia v Microsoft: The Fight for Digital Dominance,” *The Economist*, 23 November 2002, 63.
3. *Ibid.*, 63.
4. “Quantum Computing: Heads and Tails,” *The Economist*, 4 January 2003, 63.

in 2002.⁵ Researchers in Japan and the Netherlands have also been successful in developing qubits.⁶ Another future development will be in the area of “ubiquitous computing,” which involves “streams of information following customers nearly every step of their lives.”⁷ The technology for this is called Smart Personal Objects Technology (Spot), and Microsoft has been developing these smart devices, which include a wristwatch, key-chain fob, alarm clock, and refrigerator magnet. Information, such as stock prices or sports scores, is sent by satellite or Internet to FM radio stations, which then send the data on to the FM receivers in the small gadgets.⁸

Recently, security has become a critical issue to consumers, so new computers will probably have encryption systems to safeguard against identity theft and provide privacy. Although some desktop and laptop computers will survive into the third generation, the IT product of the future will be “smaller, more personal and more numerous than its predecessor.”⁹ It will incorporate computer hardware, a mobile phone, a camera, and software to run multiple programs in a tiny package that a user can fit in a pocket, wear on the wrist, or stick on the refrigerator.

5. Ibid., 63.

6. George Johnson. “The Purr of the Qubit,” *Time*, 24 February 2003, 48.

7. Jay Greene and Jim Kerstetter. “Smart Devices: Bill Has Designs on Your Wrist,” *BusinessWeek*, 20 January 2003, 68.

8. Ibid., 69.

9. “Computing’s New Shape,” *The Economist*, 23 November 2002, 11.